REMARKS

Claims 1-13, 15, 16, 19, 21 and 22 are pending in this application. By this Amendment, claims 6, 13 and 19 are amended to correct minor informalities contained therein. No new matter has been added. Reconsideration of the application is respectfully requested.

Entry of the amendments is proper under 37 CFR §1.116 since the amendments: (a) place the application in condition for allowance for the reasons discussed herein; (b) do not raise any new issue requiring further search and/or consideration since the amendments to claims 13 and 19 are made solely to overcome the rejection under 35 U.S.C. §112, second paragraph and thus, Applicant submits that the amendment more particularly recites features of the claims which should reasonably have been expected to be claimed; (c) satisfy a requirement of form asserted in the previous Office Action because the amendment to claim 6 solely corrects a lack of antecedent basis issue; (d) do not present any additional claims without canceling a corresponding number of finally rejected claims; and (e) place the application in better form for appeal, should an appeal be necessary. The amendments are necessary and were not earlier presented because, as discussed above, they are made in response to arguments raised in the final rejection. Entry of the amendments is thus respectfully requested.

Applicant appreciates the allowance of claims 2 and 3. For at least the reasons discussed below, Applicant submits that claims 1, 4-13, 15, 16, 19, 21 and 22 are also allowable.

Claims 6-8, 13, 15-16, 19 and 21-22 are rejected under 35 U.S.C. §112, second paragraph for being indefinite. Particular language in claims 6, 13 and 19 was identified as forming the basis of the rejection. As discussed above, claims 6, 13 and 19 have been

amended solely to overcome the rejection. It is respectfully requested that the rejection be withdrawn.

Claim 1 is rejected under 35 U.S.C. 103(a) over U.S. Patent No. 5,771,318 to Fang et al. (hereinafter "Fang") in view of U.S. Patent No. 6,195,467 to Asimopoulos et al. (hereinafter "Asimopoulos"). The rejection is respectfully traversed for at least the following reasons.

Page 5 of the Office Action acknowledges that Fang at least fails to disclose a similarity judging step in which similarity is judged using characteristic differences among a plurality of pixels located on lines passing near the target pixel along specific directions, as recited in claim 1. The Office Action states that col. 13, line 50 - col. 14, line 63 and Fig. 6 of Asimopoulos disclose this feature of claim 1.

Applicant respectfully submits, however, that Asimopoulos also at least fails to disclose the above-identified feature of claim 1. In particular, Applicant submits that the object of Asimopoulos is to provide a method for sharpening a grayscale image (col. 1, lines 7-8) and more specifically, to provide a method for enhancing a grayscale image by selectively limiting the enhancement of significant changes in the image, e.g., at an edge (col. 2, lines 41-44). As stated in Asimopoulos, it is known that major differences in grayscale values are usually apparent only across a plurality of pixels and the windows shown in Figs. 6 and 7A-7C permit a broader coverage of image 12 in each iteration of sharpening step 22 (col. 13, lines 53-39). Thus, Asimopoulos states that an important difference between 5x5 and 7x7 windows compared to 3x3 windows is that some pixels are compared with other neighboring pixels Pn instead of with the central pixel Pc (col. 14, lines 13-17) and thus, the 5x5 and 7x7 windows enable widening of the area near an edge that will be enhanced (col. 14, lines 18-20).

Further, Applicant notes that the arrows shown in Fig. 6 of Asimopoulos merely refer to a pair of pixels (i.e., two pixels), on different sides of the central pixel, which are being compared. More particularly, the arrow identifies that the pixel value associated with the tail of the arrow is subtracted from the pixel value of the cell in which the tip of the vector terminates to give the difference (col. 5, lines 55-59) and thus, only two pixels are compared with each other and similarity is not judged by using characteristic differences among a plurality of pixels located on lines passing near the target pixel along specific directions, as recited in claim 1.

For at least these reasons, Applicant submits that the combination of Fang and Asimopoulos fails to disclose or suggest all the features of claim 1. It is respectfully requested that the rejection be withdrawn.

Claims 13, 15, 16, 19 and 21 are rejected under 35 U.S.C. §103(a) over Fang in view of U.S. Patent No. 6,091,862 to Okisu. The rejection is respectfully traversed for at least the following reasons.

Page 5 of the Office Action acknowledges that Fang at least fails to disclose a direction-dependent low-pass filtering step, wherein image data has values regarding a first color and values regarding a second color or a color difference between the second color and the first color, and wherein weighting rates are obtained based upon the first color and/or luminance values in which a weighting to the first color relative to the second color is high, and weighted averaging is performed for the second color or the color difference using the weighting rates in the direction-dependent low-pass filtering step, as recited in claims 13 and 19. The Office states, however, that Okisu discloses these features of claims 13 and 19.

Applicant respectfully submits that col. 4, lines 18-22 of Okisu simply merely that the color separation unit 15 of Okisu separates the data series of each color red (R), green (G), blue (B) from the image data, and because the R, G and B color separated images do not each

contain a pixel value at each pixel location, pixel interpolation is necessary to provide a full image array of pixel values for each of the three colors.

Page 5 of the Office Action states that col. 5, line 63- col. 6, line 7 discloses obtaining weighting rates based upon a first color in which the weighting to the first color is high, however, the identified portions of Okisu merely disclose a method for performing pixel interpolation on the G data and thus, in Okisu, "the weight of pixel values" is obtained for performing pixel interpolation and not for a direction-dependent low-pass filtering step.

Further, the Office Action states that col. 4, lines 25-31 of Okisu discloses that weighted averaging is performed for the second color using the weighting rates. However, the identified portions of Okisu merely disclose that after pixel interpolation is performed to determine the full image array of pixel values for the color green (G), some of the G values are used in the processing of the R and B data. Nowhere does Okisu disclose that weighted averaging is performed for a second color or a color difference using the weighted rates in a direction-dependent low-pass filter, as recited in claims 13 and 19. Thus, for at least these reasons, Okisu fails to overcome the deficiencies of Fang, as applied to claims 13 and 19.

For at least these reasons, Applicant submits that the combination of Fang and Okisu fails to disclose or suggest all the features of claims 13 and 16, as well as all the features of claims 15, 16 and 21, which depend from claim 13. It is respectfully requested that the rejection be withdrawn.

Claims 4-7 are rejected under 35 U.S.C. §103(a) over Fang in view of U.S. Patent No. 5,253,046 to Shiraishi; claim 8 is rejected under 35 U.S.C. §103(a) over the combination of Fang, Asimopoulos and Shiraishi, as applied to claim 6, and further in view of U.S. Patent No. 6,040,858 to Ikeda; claims 9-11 are rejected under 35 U.S.C. §103(a) over the combination of Fang and Asimopoulos, as applied to claim 1, and further in view of Ikeda; claim 12 is rejected under 35 U.S.C. §103(a) over the combination of Fang, Asimopoulos,

and Ikeda, as applied to claim 11, and further in view of Shiraishi; and claim 22 is rejected under 35 U.S.C. §103(a) over the combination of Fang and Okisu, as applied to claim 21, and further in view of Official Notice that normalization is well known in the art. For at least the reasons discussed below, the rejections are respectfully traversed.

Applicant respectfully submits that none of Shiraishi or Ikeda, alone or in combination, overcome the deficiencies of the combination of Fang and Asimopoulos, as discussed above with regard to claim 1, or the combination of Fang and Okisu, as discussed above with regard to claims 13 and 19. For at least these reasons, Applicant submits that Fang, in combination with one or all of Asimopoulos, Okisu, Shiraishi, and Ikeda, fails to disclose or suggest all the features of claims 4-12 and 15-22, which depend from claims 1 and 13, respectively. It is respectfully requested that the rejections be withdrawn.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of all pending claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

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